Certification Summary Information Report

Tesla, Inc. **TSL** Manufacturer **Manufacturer Code Test Group** HTSLV00.0L2S **Evaporative/Refueling Family Certificate Number** HTSLV00.0L2S-001-R01 **CARB Executive Order #** 03/03/2017

Certificate Issue Date 12/20/2016 **Certificate Revision Date Certificate Effective Date** 12/20/2016 **Conditional Certificate** Yes

CSI Revision # **CSI Submission/Revision Date** 03/01/2017 04:54:08 PM

Model Year 2017

Test Group Information

CSI Type Running Change **Running Change Reference Number** 01

GHG Exempt Status Not Exempt

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator	
Electricity	1		

Hybrid Indicator No **Rechargeable Energy Storage System Indicator Multiple Fuel Storage** Yes **Multiple Fuel Combustion Off-board Charge Capable Indicator** Yes **Fuel Cell Indicator EPA Vehicle Class** LDV No Federal Clean Fuel Vehicle Federal Clean Fuel Vehicle Standard **ZEV** Yes Federal Clean Fuel Vehicle ILEV California Partial Zero Emissions Vehicle Indicator Yes **Durability Group Name** GTSLEEVNNL2S **Durability Group Equivalency Factor** FA **Reduced Fee Test Group Certification Region Code(s)** No Complies with HD GHG 2b/3 regulations? No **Introduction into Commerce Date** 12/15/2016 **CAP2000 Conditional Certificate?** Yes **Independent Commercial Importer? Alternative Fuel Converter Certificate?** No No **SFTP Federal Composite Compliance Identifier** Not Applicable **SFTP Tier 2 Composite CO Option SFTP LEV-III Composite Compliance** Indicator No CARB **OBD** Compliance Type **OBD Demonstration Vehicle Test Group** HTSLV00.0L2S **Test Group OBD Compliance Level** Full - no deficiencies **Number of Test Group OBD Deficiencies OBD Deficiencies Comments** Battery Electric Vehicle - No OBD requirements **Mfr Test Group Comments** MY2017 certification for Model S AWD carline. Running change 01 to add Model S 100D.

Mfr Exhaust / Evap Standards Comments

Date. 03/03/2017 08.10.1	9 Alvi		Cer tilication Sum	mary miormanon	Керогі				
Test Group		HTSLV00.0L2S		Evaporative/Refueling	g Family				
Models Covered by	this Certificate		Certification Region						
Carline Manufacturer	Division	Carline	Code(s)	Drive System	Trans - T	Гуре	- # of Gears	Trai	s - Lockup
Tesla, Inc.	1 - Tesla Motors	64 - Model S P90D	Federal	All Wheel Drive	Automa	ntic	1		No
Tesla, Inc.	1 - Tesla Motors	62 - Model S 75D	Federal	All Wheel Drive	Automa	ntic	1		No
Tesla, Inc.	1 - Tesla Motors	63 - Model S 90D	Federal	All Wheel Drive	Automa	ntic	1		No
Tesla, Inc.	1 - Tesla Motors	61 - Model S 60D	Federal	All Wheel Drive	Automa	ntic	1		No
Tesla, Inc.	1 - Tesla Motors	66 - Model S 100D	Federal	All Wheel Drive	Automa	ntic	1		No
Tesla, Inc.	1 - Tesla Motors	65 - Model S P100D	Federal	All Wheel Drive	Automa	ntic	1		No
Engine Description									
Hybrid Type				Hybrid Description					
Engine Type				Mfr Engine Description	on				
Engine Block Arrangen	nent			Mfr Engine Block Arr	angement Desc	ription			
Camless Valvetrain Indicator Oil Viscosity/Classification									
Number of Cylinders/R	otors			Mechanically Variable	e Compression l	Ratio Indicato	or		
After Treatment De	evice(s) (ATD)								
Mfr After Treatment D Comments	Device (ATD)								
Direct Ozone Reduction	n (DOR) Device								
Mfr Emission Control l	Device Comments								
Official Test Numb	ers								
Test Group		US06 SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity									
Official Charge Dep	pleting Test Num	bers							
Test Gro			DDS		Highway				
Elect	ricity	GTSL1	0040237	G	TSL10040259				
Elect	ricity	GTSL1	0040260	G	TSL10040261				
Elect	ricity	GTSL1	0041063	G	TSL10041064				
Elect	ricity	GTSL1	0044572	G	TSL10044573				
Elect	ricity	GTSL1	0044632	G	TSL10044633				

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family					
Hybrid Electric Vehicle And Fuel Cel	l Information						
Rechargable Energy Storage System	Battery(s)	Rechargable Energy Storage System, if Other					
Battery Type	Lithium Ion	Number of Battery Packs	1				
Total Voltage of Battery Packs	400	Battery Energy Capacity	245				
Battery Specific Energy	170	Battery Charger Type	On-Board				
Number of Capacitors		Capacitor Rating (In Farads)					
Mfr Capacitor Comments							
Hydraulic System Description							
Regenerative Braking Type	Electrical Regen Brake						
Regenerative Braking Source	Both	Driver Controlled Regenerative Braking	No				
Mfr Regenerative Braking Description							
Drive Motor(s)/Generator(s)	2						
Motor/Generator Type 1	AC Induction	Rated Motor/Generator Power	193				
Motor/Generator Type 2	AC Induction	Rated Motor/Generator Power	193				
Mfr Fuel Cell Description							
Fuel Cell On-Board H2 Storage Capacity (kg)		Usable H2 Fill Capacity (kg)					
Mfr Hybrid Electric/ Electric Vehicle Comments	Four battery variants (60D,75D 90D, 100D) is a	Four battery variants (60D,75D 90D, 100D) is available for 2017 MY Dual Motor Model S vehicles.					

Test Group		HTSLV0	0.0L2S		Evaporative/R	efueling Family		
Emission Data V	ehicle Informat	tion						
Vehicle ID / Configuration		DP316-L	2S / 0	Manufacturer Vehicle Configuration Number		ion Number	0	
Original Test Group		GTSLV0	0.0L2S	Original Evaporative/Refueling Family				
Original Test Vehicl		2016					•	
Vehicle Model								
Represented Test Vo	ehicle Make	Tesla Mo	del S		Represented T	est Vehicle Model		P90D
Leak Family Det	tails							
Leak Family Identif	ïer				Leak Family N	lame		
Drive Sources ar	nd Fuel System	Details						
Γ	Drive S	Source and Fuel#		Dri	ve Source		Fuel	
		1			etric Motor		Electricity	y
_			'			'		
Hybrid Indicator		No						
Multiple Fuel Storag	ge				Multiple Fuel			
Fuel Cell Indicator		No			_	Energy Storage Sys		Yes
Rechargeable Energ		Battery(s)	Rechargeable Energy Storage System, if 'Other'				
Off-board charge Ca	=	Yes						
Odometer Correction	on Initial	1			Odometer Cor	rection Factor		1
Odometer Correction	on Sign	-= System	m Miles is equal to (Test odometer re	ading - Initial syste	m miles) * Correction	n factor	
Odometer Correction	on Units	Miles						
Engine Code		L2S			Rated Horsepo	ower		376
Displacement (liters)	0.001						
Air Aspiration Meth	nod	Naturally	Aspirated		Air Aspiration	Method, if 'Other'		
Number of Air Aspi	ration Devices				Air Aspiration	Device Configurati	on	
Charge Air Cooler	Гуре				Drive Mode W	hile Testing		4-Wheel Drive
Shift Indicator Ligh	t Usage	Not eqipp	oed		Aged Emission	Components		4,000 (mi)
Curb Weight (lbs)		4917			Equivalent Te	st Weight (pounds)		5250
GVWR (lbs)		5874			N/V Ratio			9.7
Axle Ratio		9.34						
Transmission Type		Direct Dr	rive		# of Transmission Gears			1
Transmission Locku	ıp	No			Creeper Gear			No
Dynamometer C	Coefficients:							
	7	Target Coefficien	ts		Set Coefficients			
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		Total Road Load Horse Power for ighway/Evap Coefficients
City/Highway/Evap		0.2226	0.01403	-7.5	-0.0815	0.0146	City/II	11.7
	•	•	•		•	0.0140		11./
Emission Control Do	evice Comments	No emiss	ions control Device	- Pure Electric V	ehicle			

est Group	HTSLV00.0L2S Evaporative/Refueling Family
anufacturer Test Vehicle Comments	This is a Dual Motor Performance configuration with 90kWh Battery - MY2016 Running Change to include new tires, transmission fluid and new front fascia. Individual HP is 193kW Front / 375 KW Rear Axle Ratio Front Motor 9.34 Rear Motor 9.73

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10040260	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/15/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	655	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	96.65
Charge Depleting Range (Calculated miles)	356.2	Charge Depleting Range (Actual miles)	356.2
Equivalent All Electric Range (miles)	356.2		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	356.2
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	23.47
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Test Result for MY2016 P90D- Refresh - UDDS

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Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10040261	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/15/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	800	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	96.46
Charge Depleting Range (Calculated miles)	388.51	Charge Depleting Range (Actual miles)	388.51
Equivalent All Electric Range (miles)	388.51		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	381.84
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	21.67
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Testing result for MY2016 P90D-Refresh - HWFET

Test Group	HTSLV00.0	DL2S		Evaporative/R	efueling Family		
Emission Data Vehicle Informa	tion						
Vehicle ID / Configuration	DP416-L2S	5/0		Manufacturer	Vehicle Configurat	ion Number	0
Original Test Group Name	GTSLV00.	OL2S		Original Evaporative/Refueling Family			
Original Test Vehicle Model Year	2016						
Vehicle Model							
Represented Test Vehicle Make	Tesla Mode	el S		Represented T	est Vehicle Model		P100D
Leak Family Details							
Leak Family Identifier				Leak Family N	lame		
Drive Sources and Fuel System	Details						
Drive	Source and Fuel#		Dri	ve Source		Fuel	
	1			etric Motor		Electricity	У
T 1 '1 T 1' '							
Hybrid Indicator	No			MULTI	G 1 4		
Multiple Fuel Storage	 NI			Multiple Fuel		T. 1' 4	 X 7
Fuel Cell Indicator	No			_	Energy Storage Sys		Yes
Rechargeable Energy Storage System	Battery(s)			Kecnargeable	Energy Storage Sys	tem, if 'Otner'	
Off-board charge Capable Indicator	Yes			Odamatan Can	mastian Eastan		1
Odometer Correction Initial	1 - Systam	Miles is equal to (Fast adamatas sa	Odometer Cor		n faatan	1
Odometer Correction Sign	-	willes is equal to (rest odometer re	adıng - Initiai syste	m miles) * Correction	n factor	
Odometer Correction Units Engine Code	Miles L2S			Dated Hargan	ATTON		376
Displacement (liters)	0.001			Rated Horsepo	ower		370
-		aminoted.		Aim Agnimation	Mothed if !Other!		
Air Aspiration Method	Naturally A	spirated		=	Method, if 'Other'	iom.	
Number of Air Aspiration Devices				=	Device Configurati	OII	4-Wheel Drive
Charge Air Cooler Type	NI-4i	1		Drive Mode W Aged Emission	_		
Shift Indicator Light Usage Curb Weight (lbs)	Not eqipped 5062	1		_	st Weight (pounds)		4,000 (mi) 5250
GVWR (lbs)	6043			N/V Ratio	st weight (pounds)		9.7
Axle Ratio	9.34			N/ V Katio			9.7
Axie Kauo Fransmission Type	9.54 Direct Driv	e.		# of Transmiss	ion Cears		1
Fransmission Type	No	C		# of Transmiss Creeper Gear	ion Geats		No
-	NO			Creeper Gear			NO
Dynamometer Coefficients:	Towart Coafficient			Cot Coefficient			
Coefficient	Target Coefficients			Set Coefficients		EDA Colouleted	l Total Road Load Horse Power f
Category A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		i 10tai Koad Load Horse Power i lighway/Evap Coefficients
City/Highway/Evap 41.35	0.267	0.0137	-8.1	-0.0329	0.01383		11.9
Emission Control Device Comments	No emissio	ns control Device -	Dura Flactric V	ahiala			

Гest Group	HTSLV00.0L2S	Evaporative/Refueling Family
Manufacturer Test Vehicle Comments	This is a Dual Motor Performance 9.34 Rear Motor 9.73	e configuration with 10kWh Battery pack Individual HP is 193kW Front / 375 KW Rear Axle Ratio Front Motor

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10044572	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	07/15/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	655	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	111.47
Charge Depleting Range (Calculated miles)	414.45	Charge Depleting Range (Actual miles)	414.45
Equivalent All Electric Range (miles)	414.45		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Rog/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	414.45
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	23.69
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Test Result for MY2016 P100D - UDDS

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10044573	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	07/17/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	1000	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	111.88
Charge Depleting Range (Calculated miles)	469.99	Charge Depleting Range (Actual miles)	469.99
Equivalent All Electric Range (miles)	469.99		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	469.99
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	21
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Testing result for MY2016 P100D- HWFET

Test Group	HTSLV0	0.0L2S		Evaporative/R	efueling Family		
Emission Data Vehicle Inf	ormation						
Vehicle ID / Configuration	DS116-L	2S / 0		Manufacturer Vehicle Configuration Number		0	
Original Test Group Name	GTSLV0	0.0L2S			orative/Refueling Fa		
Original Test Vehicle Model Yea	ar 2016						
Vehicle Model							
Represented Test Vehicle Make	Tesla Mo	del S		Represented T	est Vehicle Model		60D
Leak Family Details							
Leak Family Identifier				Leak Family N	ame		
Drive Sources and Fuel Sy	stem Details						
	Drive Source and Fuel#		Dri	ve Source		Fuel	
	1			etric Motor		Electricity	7
							<u>—</u>
Hybrid Indicator	No				~ .		
Multiple Fuel Storage				Multiple Fuel			
Fuel Cell Indicator	No			_	Energy Storage Syst		Yes
Rechargeable Energy Storage S	•)		Rechargeable	Energy Storage Syst	tem, if 'Other'	
Off-board charge Capable Indic	cator Yes			01			1
Odometer Correction Initial	1	3.60	Odometer Correction Factor (Test odometer reading - Initial system miles) * Correction factor		1		
Odometer Correction Sign	-	m Miles is equal to (1 est odometer rea	ading - Initial system	n miles) * Correction	1 factor	
Odometer Correction Units	Miles			Dotod Housen			277
Engine Code	L2S			Rated Horsepo	ower		376
Displacement (liters)	0.001	A:A		A: A:4:	Modbod : £104b and		
Air Aspiration Method		Aspirated		=	Method, if 'Other'	om	
Number of Air Aspiration Device	es				Device Configuration	on	4-Wheel Drive
Charge Air Cooler Type	N-4			Drive Mode W	=		
Shift Indicator Light Usage Curb Weight (lbs)	Not eqipp 4723	eu		Aged Emission	st Weight (pounds)		4,000 (mi) 5000
GVWR (lbs)	5820			N/V Ratio	st weight (pounds)		9.7
Axle Ratio	9.34			N/ V Kauo			9.1
Transmission Type	9.34 Direct Dr	ivo		# of Transmiss	ion Coors		1
Transmission Lockup	No	ive	# of Transmission Gears Creeper Gear		No		
_				Creeper Gear			140
Dynamometer Coefficient	Target Coefficien	to		Set Coefficients			
Coefficient	Target Coemicien	ıs		Set Coefficients		FPA Calculated	Total Road Load Horse Power for
Category A (lb	f) B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		ighway/Evap Coefficients
City/Highway/Evap 37.3		0.01508	-1.5	0.01177	0.01559	<u> </u>	11.2
Emission Control Device Comments No emissions control Device - Pure Electric Vehicle							

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family
Manufacturer Test Vehicle Comments	This is a Dual Motor Base config 193KW Rear Axle Ratio Front M	uration with firmware limited 75kWh Battery pack - MY2016 Running Change Individual HP is 193kW Front / totor 9.34 Rear Motor 9.73

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10044632	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	08/10/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	655	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	73.45
Charge Depleting Range (Calculated miles)	299.57	Charge Depleting Range (Actual miles)	299.57
Equivalent All Electric Range (miles)	299.57		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Rag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	299.57
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	21.14
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments MY2016 60D-UDDS - physical RETEST as per EPA's direction

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Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10044633	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	08/12/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	655	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	71.68
Charge Depleting Range (Calculated miles)	307.52	Charge Depleting Range (Actual miles)	307.52
Equivalent All Electric Range (miles)	307.52		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	307.52
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	20.17
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Test Result for MY2016 60D-HWFET - RETEST AS Per EPA direction

Test Group		HTSLV0	0.0L2S		Evaporative/R	efueling Family	
Emission Data Ve	hicle Informat	tion					
Vehicle ID / Configur	ation	DS216-L	2S / 0		Manufacturer Vehicle Configuration Number		ation Number 0
Original Test Group I		GTSLV0				orative/Refueling I	
Original Test Vehicle		2016			9 g	g	
Vehicle Model							
Represented Test Veh	icle Make	Tesla Mo	del S		Represented T	est Vehicle Model	75D
Leak Family Deta							· · · · · · · · · · · · · · · · · · ·
Leak Family Identifie					Leak Family N	ame	_
Drive Sources and		Details			Doub I uning I		
Tive Sources and							
	Drive S	Source and Fuel#			ve Source		Fuel
		1		Elec	etric Motor		Electricity
Hybrid Indicator		No					
Aultiple Fuel Storage					Multiple Fuel	Combustion	
Tuel Cell Indicator		No			Rechargeable	Energy Storage Sy	ystem Indicator Yes
Rechargeable Energy	Storage System	Battery(s)		Rechargeable	Energy Storage Sy	ystem, if 'Other'
Off-board charge Cap	able Indicator	Yes					
Odometer Correction	Initial	1		Odometer Correction Factor		1	
Odometer Correction	Sign	-= System	m Miles is equal to (Test odometer rea	ading - Initial system	m miles) * Correction	ion factor
Odometer Correction	Units	Miles					
Engine Code		L2S			Rated Horsepo	ower	376
Displacement (liters)		0.001					
Air Aspiration Metho	d	Naturally	Aspirated		Air Aspiration	Method, if 'Other	r'
Number of Air Aspira	tion Devices				Air Aspiration	Device Configura	ation
Charge Air Cooler Ty	rpe				Drive Mode W	hile Testing	4-Wheel Drive
Shift Indicator Light	Usage	Not eqipp	ped		Aged Emission	Components	4,000 (mi)
Curb Weight (lbs)		4723			Equivalent Tes	st Weight (pounds)	5000
GVWR (lbs)		5820			N/V Ratio		9.7
Axle Ratio		9.34					
Transmission Type		Direct Dr	rive		# of Transmiss	ion Gears	1
Cransmission Lockup		No			Creeper Gear		No
Dynamometer Co	efficients:						
	ר	Target Coefficien	ts		Set Coefficients		
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap	37.37	0.1842	0.01508	-1.5	0.01177	0.01559	11.2
		•	•		•		
Emission Control Dev	ice Comments	No emiss	ions control Device	- Pure Electric Ve	enicie		

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family
Manufacturer Test Vehicle Comments	This is a Dual Motor Base configu Ratio Front Motor 9.34 Rear Motor	tration with 75kWh Battery pack - MY2016 Running Change Individual HP is 193kW Front / 193KW Rear Axle or 9.73

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Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10041063	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/15/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	655	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	84.48
Charge Depleting Range (Calculated miles)	345.5	Charge Depleting Range (Actual miles)	345.5
Equivalent All Electric Range (miles)	345.5		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	345.5
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	21.05
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Test Result for MY2016 75D-UDDS

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Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10041064	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/15/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	800	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	84.65
Charge Depleting Range (Calculated miles)	358.49	Charge Depleting Range (Actual miles)	358.49
Equivalent All Electric Range (miles)	358.49		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	358.49
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	20.5
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Testing result for MY2016 75D - HWFET

Test Group		HTSLV0	0.01.25		Evanamativa/D	ofuoling Family	
Test Group		HISLYU	0.0L2S	Evaporative/Refueling Family			
Emission Data V	Vehicle Informat	tion					
Vehicle ID / Config	uration	DS316-L	2S / 0		Manufacturer Vehicle Configuration Number		tion Number 0
Original Test Grou	p Name	GTSLV0	0.0L2S		Original Evap	orative/Refueling F	Family
Original Test Vehic	le Model Year	2016					
Vehicle Model							
Represented Test V	ehicle Make	Tesla Mo	del S		Represented T	est Vehicle Model	90D
Leak Family De	tails						
Leak Family Identi	fier				Leak Family N	ame	
Drive Sources a	nd Fuel System	Details					
ſ	Drive S	Source and Fuel#		Dri	ve Source		Fuel
		1			etric Motor		Electricity
Hybrid Indicator		No					
Multiple Fuel Stora	ge				Multiple Fuel	Combustion	
Fuel Cell Indicator	.8-	No			=	Energy Storage Sys	stem Indicator Yes
Rechargeable Ener	gy Storage System	Battery(s)			Energy Storage Sys	
Off-board charge C		Yes	,			,	
Odometer Correcti	=	1		Odometer Correction Factor		1	
Odometer Correcti	-= System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor		on factor				
Odometer Correcti	on Units	Miles					
Engine Code		L2S		Rated Horsepower		376	
Displacement (liters	s)	0.001					
Air Aspiration Met	hod	Naturally	Aspirated		Air Aspiration	Method, if 'Other'	,
Number of Air Asp	iration Devices				Air Aspiration	Device Configurat	tion
Charge Air Cooler	Туре				Drive Mode W	hile Testing	4-Wheel Drive
Shift Indicator Ligh	nt Usage	Not eqipp	oed		Aged Emission	Components	4,000 (mi)
Curb Weight (lbs)		4811			Equivalent Tes	st Weight (pounds)	5000
GVWR (lbs)		5820			N/V Ratio		9.7
Axle Ratio		9.34					
Transmission Type		Direct Dr	rive		# of Transmiss	ion Gears	1
Transmission Lock	up	No		Creeper Gear		No	
Dynamometer (Coefficients:						
	7	Farget Coefficien	ts		Set Coefficients		
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Eva		0.1493	0.01514	-3.17	-0.0049	0.01453	11.3
Emission Control Device Comments No emissions control Device - Pure Electric Vehicle							

est Group	HTSLV00.0L2S Evaporative/Refueling Family
Manufacturer Test Vehicle Comments	This is a Dual Motor Base configuration with 90kWh vehicle - MY2016 Running Change to include new tires, transmission fluid and new front fas Individual HP is 193kW Front / 193KW Rear Axle Ratio Front Motor 9.34 Rear Motor 9.73

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Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
TD 4.4	CITICA 100 4002F	T 4 D 1	et di Pilit IIDDa
Test #	GTSL10040237	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/11/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	566	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	96.08
Charge Depleting Range (Calculated miles)	384	Charge Depleting Range (Actual miles)	384
Equivalent All Electric Range (miles)	384		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	384
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	21.8
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Internal test result for MY2016 90D- Refresh

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Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	GTSL10040259	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/15/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	350	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	96.66
Charge Depleting Range (Calculated miles)	405.2	Charge Depleting Range (Actual miles)	405.2
Equivalent All Electric Range (miles)	405.2		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	405.2
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	20.8
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Internal test result for MY2016 90D- Refresh

Emission Data Vehicle Inform Vehicle ID / Configuration Original Test Group Name Original Test Vehicle Model Year							
Original Test Group Name							
_	DS417-172225 /	0	Manufacturer Vehicle Configuration Number		0		
Priginal Test Vehicle Model Year	HTSLV00.0L2S			Original Evap	orative/Refueling	Family	
	2017						
Vehicle Model							
Represented Test Vehicle Make	Tesla Model S			Represented T	est Vehicle Model		100D
Leak Family Details							
Leak Family Identifier				Leak Family N	ame		
Orive Sources and Fuel Syste	em Details						
Dr	ive Source and Fuel#		Dri	ve Source		Fuel	
	1			etric Motor		Electricity	
		<u> </u>			'		
Iybrid Indicator	No						
Iultiple Fuel Storage				Multiple Fuel	Combustion		
uel Cell Indicator	No			Rechargeable 1	Energy Storage Sy	stem Indicator	Yes
echargeable Energy Storage Syste	<u>-</u>		Rechargeable Energy Storage System, if 'Other'				
Off-board charge Capable Indicato	r Yes						
Odometer Correction Initial	1		Guometti Gorreetton Luctor		1		
Odometer Correction Sign	- = System Miles	is equal to (Te	est odometer rea	ading - Initial syster	n miles) * Correcti	on factor	
Odometer Correction Units	Miles						
Ingine Code	L2S		Rated Horsepower 376		376		
Displacement (liters)	0.001						
Air Aspiration Method	Naturally Aspirat	ed		=	Method, if 'Other		
Tumber of Air Aspiration Devices					Device Configura	tion	
Charge Air Cooler Type				Drive Mode W	_		4-Wheel Drive
hift Indicator Light Usage	Not eqipped			Aged Emission	Components		4,000 (mi)
Curb Weight (lbs)	4957			Equivalent Tes	st Weight (pounds)	5250
GVWR (lbs)	5926			N/V Ratio			9.7
axle Ratio	9.34						
ransmission Type	Direct Drive			# of Transmiss	ion Gears		1
ransmission Lockup	No			Creeper Gear			No
Dynamometer Coefficients:							
	Target Coefficients			Set Coefficients			
Coefficient Category A (lbf)	B (lbf/mph) C (lbf	/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		Total Road Load Horse Power for ghway/Evap Coefficients
City/Highway/Evap 40.52		01614	9.11	0.0607	0.0094	333,722	11.9

est Group	HTSLV00.0L2S Evaporative/Refueling Family
Ianufacturer Test Vehicle Comments	This is a Dual Motor Base configuration with 100kWh battery Individual HP is 193kW Front / 193KW Rear Axle Ratio Front Motor 9.34 Rear Moto 9.73

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Test #	HTSL10046798	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	02/14/2017	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	1000	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	113.201
Charge Depleting Range (Calculated miles)	449.76	Charge Depleting Range (Actual miles)	449.76
Equivalent All Electric Range (miles)	449.76		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Rag/Phase	1		

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	449.76
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	133.9
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Internal test result for MY2017 100D . Range determined by using SAE J1634 Multi-cycle test procedure.

Certification Summary Information Report

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
m	HTCH 10046700	T (P 1	04 Cl
Test #	HTSL10046799	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	02/14/2017	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	1000	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	113.201
Charge Depleting Range (Calculated miles)	455.37	Charge Depleting Range (Actual miles)	455.37
Equivalent All Electric Range (miles)	455.37		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Denleting Rag/Phase			

Charge Depleting Bag/Phase

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Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	455.37
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	135.6
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Internal test result for MY2017 100D . Range determined by using SAE J1634 Multi-cycle test procedure.

Certification Summary Information Report

Test Group	HTSLV00.0L2S	Evaporative/Refueling Family	
Fuel Properties			

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Test Group	HTS	LV00.0L2S		Evaporative/Refueling Family					
			Consolida	ated List of Sta	andards				
Exhaust Standard	S								
Cert Region	Feder	ral		Cert/In-U	Use Code		Cer	t	
Vehicle Class	LDV	/Passenger Car	nger Car Standard Level			Federal Tier 3 Bin 0			
Fuel	Elect	ricity	ity Test Procedure			CVS 75 and later (w/o can. load)			
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	СО						1		0
150,000 miles	CREE						1		0
130,000 iiiies	CILL						1		

Certification Summary Information Report

Test Group	HTSLV00.0L2S	Evaporative/Refueling	g Family
	Gl	ossary	
Useful Life			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
Emission Name			
HC-TOTAL	Total Hydrocarbon	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gas (California)	CO2 BAG 4	Bag 4 Carbon Dioxide
НСНО	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
Н3С2НО	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
НС	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only
Certification Region			
CA	California + CAA Section 177 states	FA	Federal
Exhaust Emission Star	ndard Level		
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150

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B6	Test Group	HTSLV00.0L2S	Evaporative/Refue	eling Family
R8	B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630
Poteral Tier 2 Bin 9	B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570
B10	B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400
B11	B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270
HDV1	B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230
HDV2 HDV2 (Federal HD chassis Class 3 GVW 10001-14000) T38 L2 Federal Tier 3 Bin 125 Federal Tier 3 Transitional Bin 110	B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200
L2	HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160
L2OP	HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125
Variable	L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110
S2	L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85
ZEV California ZEV California ZEV T3B50 Federal Tier 3 Bin 50 OT Other T3B30 Federal Tier 3 Bin 30 T1 Federal Tier 1 Federal Tier 3 Bin 30 PZEV California PZEV T3B0 Federal Tier 3 Bin 10 PZEV California LEV-II LEV160 HDV2B395 Federal Tier 3 Bin 0 L2LEV160 California LEV-II ULEV125 HDV2B340 Federal Tier 3 Bin 0 L2LEV30 California LEV-II ULEV130 HDV2B340 Federal Tier 3 HD Class 2b Transitional Bin 340 L2LEV330 California LEV-II ULEV30 HDV2B250 Federal Tier 3 HD Class 2b Bin 250 L2LEV3395 California LEV-II ULEV30 HDV2B250 Federal Tier 3 HD Class 2b Bin 20 L2LEV340 California LEV-II ULEV30 HDV2B10 Federal Tier 3 HD Class 2b Bin 170 L2LEV530 California LEV-II ULEV30 HDV2B150 Federal Tier 3 HD Class 2b Bin 170 L2LEV570 California LEV-II ULEV570 HDV2B150 Federal Tier 3 HD Class 2b Bin 150 L3LEV160 California LEV-III ULEV160 HDV2B0 Federal Tier 3 HD Class 2b Bin 160 L3LEV152 California LEV-III ULEV154 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV50 California LEV-III ULEV10 HDV3B400 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV50 California LEV-III ULEV50 HDV3B570 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B400 Federal Tier 3 HD Class 3 Bin 200 L3ULEV50 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV20 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV50 HDV3B20 Federal	U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
OT Other T3B30 Federal Tier 3 Bin 30 T1 Federal Tier 1 T3B20 Federal Tier 3 Bin 20 DZEV California PZEV T3B0 Federal Tier 3 Bin 20 L2ULEV160 California LEV-II LEV160 HDV2B395 Federal Tier 3 HD Class 2b Transitional Bin 395 L2ULEV152 California LEV-II ULEV125 HDV2B340 Federal Tier 3 HD Class 2b Transitional Bin 340 L2ULEV30 California LEV-II ULEV390 HDV2B250 Federal Tier 3 HD Class 2b Bin 250 L2ULEV395 California LEV-II ULEV395 HDV2B200 Federal Tier 3 HD Class 2b Bin 200 L2ULEV340 California LEV-II ULEV340 HDV2B170 Federal Tier 3 HD Class 2b Bin 170 L2ULEV570 California LEV-II ULEV570 HDV2B150 Federal Tier 3 HD Class 2b Bin 150 L3ULEV160 California LEV-III ULEV570 HDV3B630 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV50 California LEV-III ULEV50 HDV3B570 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B200 Federal Tier 3 HD Class 3 Bin 400 L3ULEV30 California LEV-III ULEV50 HDV3B230	S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70
T1	ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50
PZEV California PZEV California LEV-II LEV160 HDV2B395 Federal Tier 3 HD Class 2b Transitional Bin 395 L2LEV165 California LEV-II LEV155 HDV2B340 Federal Tier 3 HD Class 2b Transitional Bin 340 L2UEV125 California LEV-II SULEV30 HDV2B250 Federal Tier 3 HD Class 2b Bin 250 L2UEV395 California LEV-II LEV395 HDV2B200 Federal Tier 3 HD Class 2b Bin 200 L2ULEV340 California LEV-II ULEV3440 HDV2B170 Federal Tier 3 HD Class 2b Bin 170 L2ULEV303 California LEV-II ULEV340 HDV2B10 Federal Tier 3 HD Class 2b Bin 170 L2ULEV570 California LEV-II ULEV370 HDV2B10 Federal Tier 3 HD Class 2b Bin 150 L2ULEV570 California LEV-II ULEV370 HDV2B10 Federal Tier 3 HD Class 2b Bin 10 L3UEV160 California LEV-III LEV160 HDV3B630 Federal Tier 3 HD Class 3 Transitional Bin 630 L3UEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV160 California LEV-III ULEV160 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV30 HDV3B270 Federal Tier 3 HD Class 3 Bin 200 L3ULEV20 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 200 L3ULEV20 California LEV-III ULEV20 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV20 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV30 HDV3B30 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV30	ОТ	Other	T3B30	Federal Tier 3 Bin 30
L2ULEV160 California LEV-II ULEV160 HDV2B395 Federal Tier 3 HD Class 2b Transitional Bin 395 L2ULEV125 California LEV-II ULEV30 HDV2B340 Federal Tier 3 HD Class 2b Bin 250 L2ULEV395 California LEV-II LEV395 HDV2B200 Federal Tier 3 HD Class 2b Bin 200 L2LEV395 California LEV-II ULEV340 HDV2B170 Federal Tier 3 HD Class 2b Bin 200 L2LEV340 California LEV-II ULEV340 HDV2B170 Federal Tier 3 HD Class 2b Bin 170 L2LEU-R540 California LEV-II ULEV340 HDV2B150 Federal Tier 3 HD Class 2b Bin 170 L2LEU-R570 California LEV-II ULEV570 HDV2B0 Federal Tier 3 HD Class 2b Bin 100 L3ULEV160 California LEV-III ULEV160 HDV3B630 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 670 L3ULEV70 California LEV-III ULEV50 HDV3B570 Federal Tier 3 HD Class 3 Bin 400 L3ULEV30 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 400 L3ULEV30 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV50 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3LEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3LEV30 California LEV-III ULEV30 FEDERAL TIEV30 FEDERAL TIEV30	T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20
L2ULEV125 California LEV-II ULEV125 HDV2B340 Federal Tier 3 HD Class 2b Bin 250 L2ULEV30 California LEV-II ULEV30 HDV2B250 Federal Tier 3 HD Class 2b Bin 250 L2ULEV395 California LEV-II ULEV340 HDV2B200 Federal Tier 3 HD Class 2b Bin 200 L2ULEV340 California LEV-II ULEV340 HDV2B170 Federal Tier 3 HD Class 2b Bin 170 L2ULEV530 California LEV-II ULEV340 HDV2B150 Federal Tier 3 HD Class 2b Bin 170 L2ULEV570 California LEV-II ULEV570 HDV2B0 Federal Tier 3 HD Class 2b Bin 0 L3ULEV160 California LEV-III ULEV570 HDV3B630 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV125 California LEV-III ULEV70 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV70 California LEV-III ULEV50 HDV3B570 Federal Tier 3 HD Class 3 Bin 240 L3ULEV50 California LEV-III ULEV50 HDV3B240 Federal Tier 3 HD Class 3 Bin 270 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III ULEV50 HDV3B230 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III ULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III ULEV395 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3LEV305 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III ULEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III LEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III LEV30 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 C3SULEV30 California LEV-III LEV30 Federal Tier 3 HD Class 3 B	PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0
L2SULEV30 California LEV-II SULEV30 HDV2B250 Federal Tier 3 HD Class 2b Bin 250 L2LEV345 California LEV-II LEV395 HDV2B200 Federal Tier 3 HD Class 2b Bin 200 L2ULEV340 California LEV-II ULEV340 HDV2B170 Federal Tier 3 HD Class 2b Bin 170 L2LEV630 California LEV-II ULEV570 HDV2B150 Federal Tier 3 HD Class 2b Bin 150 L2ULEV570 California LEV-II ULEV570 HDV2B0 Federal Tier 3 HD Class 2b Bin 0 L3ULEV160 California LEV-III ULEV160 HDV3B630 Federal Tier 3 HD Class 2b Bin 0 L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV70 California LEV-III ULEV70 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV50 California LEV-III ULEV50 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3ULEV30 California LEV-III SULEV30 HDV3B270 Federal Tier 3 HD Class 3 Bin 200 L3ULEV20 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 200 L3ULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III ULEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III ULEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV395 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class 3 Bin 200 L3LEV30 FEDERAL TIER 3 HD Class	L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
L2LEV395 California LEV-II LEV395 HDV2B200 Federal Tier 3 HD Class 2b Bin 200 L2ULEV340 California LEV-II ULEV340 HDV2B170 Federal Tier 3 HD Class 2b Bin 170 L2LEV630 California LEV-II LEV630 HDV2B150 Federal Tier 3 HD Class 2b Bin 150 L2ULEV570 California LEV-II ULEV570 HDV2B10 Federal Tier 3 HD Class 2b Bin 0 L3LEV160 California LEV-III LEV160 HDV3B630 Federal Tier 3 HD Class 2b Bin 0 L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV70 California LEV-III ULEV70 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV30 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3ULEV30 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3ULEV30 California LEV-III SULEV30 HDV3B270 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III SULEV30 HDV3B270 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III SULEV30 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV395 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV305 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV305 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV305 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV305 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV305 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV305 Federal Tier 3 HD Class 3 Bin 200 L3ULEV30 California LEV-III LEV3	L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
L2ULEV340 California LEV-II ULEV340 HDV2B170 Federal Tier 3 HD Class 2b Bin 170 L2ULEV570 California LEV-II ULEV570 HDV2B0 Federal Tier 3 HD Class 2b Bin 150 L2ULEV570 California LEV-II ULEV570 HDV2B0 Federal Tier 3 HD Class 2b Bin 0 L3ULEV160 California LEV-III ULEV160 HDV3B630 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV70 California LEV-III ULEV70 HDV3B570 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III SULEV30 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3SULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 0 Transinssion Type Code AMS Automatic OT Other AM Automated Manual Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2LEV630 California LEV-II LEV630 HDV2B150 Federal Tier 3 HD Class 2b Bin 150 L2ULEV570 California LEV-II ULEV570 HDV2B0 Federal Tier 3 HD Class 2b Bin 0 L3LEV160 California LEV-III ULEV160 HDV3B630 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV70 California LEV-III ULEV70 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3ULEV30 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3SULEV30 California LEV-III SULEV30 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 0 Transmission Type Code AMS Automated Manual - Selectable (e.g. Automated Manual with paddles) M Manual A Automated Manual A Automated Manual S A Semi-Automatic CVT Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive F P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2ULEV570 California LEV-II ULEV570 HDV3B630 Federal Tier 3 HD Class 2b Bin 0 L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV70 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV70 California LEV-III ULEV70 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3ULEV30 California LEV-III ULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3ULEV30 California LEV-III SULEV30 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B20 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 0 Transmission Type Code AMS Automated Manual- Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual Selectable (e.g. Automated Manual with paddles) SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
L3LEV160 California LEV-III LEV160 HDV3B630 Federal Tier 3 HD Class 3 Transitional Bin 630 L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV70 California LEV-III ULEV70 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3SULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 Transmission Type Code AMS Automated Manual - Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual Selectable (e.g. Automated Manual with paddles) SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
L3ULEV125 California LEV-III ULEV125 HDV3B570 Federal Tier 3 HD Class 3 Transitional Bin 570 L3ULEV70 California LEV-III ULEV70 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3SULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 Transmission Type Code AMS Automated Manual - Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual Selectable (e.g. Automated Manual with paddles) SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
L3ULEV70 California LEV-III ULEV70 HDV3B400 Federal Tier 3 HD Class 3 Bin 400 L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3SULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 0 Transmission Type Code AMS Automated Manual - Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
L3ULEV50 California LEV-III ULEV50 HDV3B270 Federal Tier 3 HD Class 3 Bin 270 L3SULEV30 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3SULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 Transmission Type Code AMS Automated Manual- Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
L3SULEV30 California LEV-III SULEV30 HDV3B230 Federal Tier 3 HD Class 3 Bin 230 L3SULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 Transmission Type Code AMS Automated Manual- Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
L3SULEV20 California LEV-III SULEV20 HDV3B200 Federal Tier 3 HD Class 3 Bin 200 L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 200 Transmission Type Code AMS Automated Manual- Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L3LEV395 California LEV-III LEV395 HDV3B0 Federal Tier 3 HD Class 3 Bin 0 Transmission Type Code AMS Automated Manual- Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
Transmission Type Code AMS Automated Manual- Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
AMS Automated Manual- Selectable (e.g. Automated Manual with paddles) M Manual A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0
A Automatic OT Other AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	Transmission Type	e Code		
AM Automated Manual SA Semi-Automatic CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual
CVT Continuously Variable SCV Selectable Continuously Variable (e.g. CVT with paddles) Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive Front A All Wheel Drive	A	Automatic	OT	Other
Drive System Code 4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	AM	Automated Manual	SA	Semi-Automatic
4 4-Wheel Drive P Part-time 4-Wheel Drive F 2-Wheel Drive, Front A All Wheel Drive	CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
F 2-Wheel Drive, Front A All Wheel Drive	Drive System Code	e		
	4	4-Wheel Drive	P	Part-time 4-Wheel Drive
D AMILIO, D	F	2-Wheel Drive, Front	A	All Wheel Drive
K 2-wneel Drive, Kear	R	2-Wheel Drive, Rear		

Test Group	HTSLV00.0L2S	Evaporative/Re	Evaporative/Refueling Family	
Additional Ter	rms and Acronyms			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer	
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery	
DF	Deterioration Factor	SIL	Shift Indicator Light	
Evap	Evaporation, Evaporative	Trans	Transmission	